



RADIATION SCIENCES INC.



**APPENDIX I
TO
RADIATION SCIENCES INC.
FCC TEST REPORT NO. RSI-2709E**

PREPARED FOR:

Lutron Electronics
7200 Suter Road
Coopersburg, PA 18036

SUBMITTED BY:

Radiation Sciences Inc.
3131 Detwiler Road
Harleysville, PA 19438

PREPARED BY:

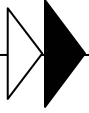
Daniel J. Signore
President
Radiation Sciences Inc.



1.0 INTRODUCTION

This Appendix I to Radiation Sciences Inc. (RSI) FCC Test Report # RSI-2709E has been prepared in response to test report review comments submitted to Lutron Electronics by Mr. Chris Harvey, EMC Consultants, LLC.

The RSI responses to three review comments are included herein.



2.0 RESPONSE TO TEST REPORT REVIEW COMMENTS

2.1 ANSI C63.4 (1992 Issue Versus 2003 Issue)

COMMENT:

The test report indicates that testing was performed in accordance with ANSI C63.4:1992. Please verify that testing was actually performed in accordance with the required ANSI C63.4:2003 (including OATS NSA Compliance).

RESPONSE:

a) The use of the 1992 date by RSI was in error. A previous report prepared by Radiation Sciences Inc. for Lutron was used as a mark-up (boilerplate) and RSI overlooked the specification date. The testing was performed in accordance with ANSI C63.4:2003.

b) Regarding OATS NSA Compliance;

1) A complete OATS NSA report was submitted and FCC-approved on 23 July 2003. A copy of the subsequent approval letter is included herein as Figure 1.

2) In addition, RSI successfully met the A2LA audit requirements for FCC testing on 2 November 2004. During this audit, a partial NSA test of the OATS was witnessed by the A2LA-appointed auditor. Copies of the A2LA certificate and scope are shown in Figures 2 and 3, respectively.



FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

July 23, 2003

Registration Number: 98314

Radiation Sciences Inc.
3131 Detwiler Rd.
Harleysville, PA 19438

Attention: Daniel Signore

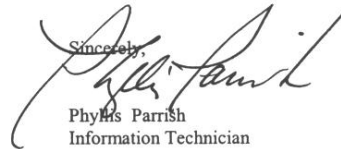
Re: Measurement facility located at Harleysville
3 & 10 meter site
Date of Renewal: July 23, 2003

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,



Phyllis Parrish
Information Technician

Figure 1



**THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION**

ACCREDITED LABORATORY

A2LA has accredited

**RADIATION SCIENCES INC.
Harleysville, PA**

for technical competence in the field of

Electrical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing.

Presented this 2nd day of November 2004.



Peter Abney

President
For the Accreditation Council
Certificate Number 1986.01
Valid to September 30, 2006

For tests or types of tests to which this accreditation applies,
please refer to the laboratory's Electrical Scope of Accreditation.

Figure 2



SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

RADIATION SCIENCES, INC.
3131 Detwiler Road
Harleysville, PA 19438
Daniel J. Signore Phone: 215 256 4133

ELECTRICAL (EMC)

Valid to: September 30, 2006

Certificate Number: 1986-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

Product Specific

Conducted Emission	FCC Method Part 15 & 18 using ANSI C63.4 (01); EN 50011 (98) Groups 1 and 2, CISPR 22 (97); EN 55022 (98); MIL-STD-461D/E-CE101, CE102
Radiated Emission	FCC Method Part 15 & 18 using ANSI C63.4 (01); EN 55011 (98) Groups 1 and 2; CISPR 22 (97) EN 55022 (98); MIL-STD-461D/E-RE101, RE102
Harmonics	EN 61000-3-2 (01); IEC 61000-3-2 (00)
Flicker	EN 61000-3-3 (95+amd1 (01)); IEC 61000-3-3 (02)
Conducted Radio Frequency Immunity	EN 61000-4-6 (03); IEC 61000-4-6 (03)
Radiated Immunity	MIL-STD-461D/E-RS101, RS103
Electrical Fast Transient	EN 61000-4-4 (95); IEC 61000-4-4 (95)
Surge	EN 61000-4-5 (95+amd1 (00)); IEC 61000-4-5 (95+amd1 (00))
Power Magnetic Field Immunity	EN 61000-4-8 (93); IEC 61000-4-8 (93)
Voltage Dips, Short Interruptions, and Line Voltage Variations	EN 61000-4-11 (94); IEC 61000-4-11(94)

General Standards

Emission	EN 61000-6-3(2001), EN 61000-6-4(2001)
Immunity	EN 61000-6-1(2001), EN 61000-6-2(2001)
Medical	EN 60601-1-2(2001)
Measurement, Control and Laboratory Use	EN 61326 (2002)

On materials and products related to the following:
Information Technology Equipment

Figure 3



2.2 AVERAGING FACTORS

COMMENT:

Please provide a calculation and description of the limit used for the averaging factor used. Is this device compliant with the 15.231(a) or 15.231(e) limit?

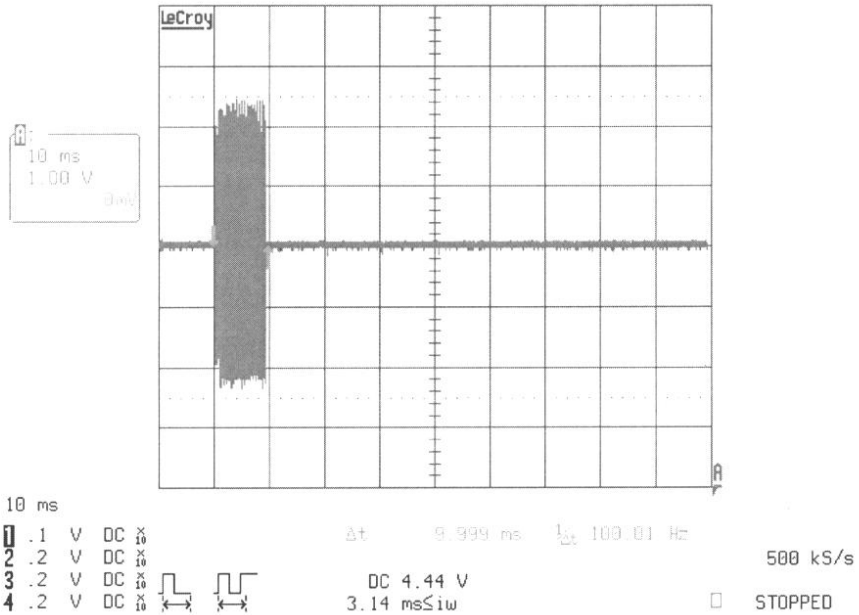
RESPONSE:

- a) Figure 4 herein presents the calculation of the -20dB averaging factor used.
- b) The Lutron Electronics model HRD-5KP was tested to and found compliant with 15.231(a).



4-May-05
7:43:59

Reading Floppy Disk Drive



Duty Cycle Correction Factor Calculation:

Total Number of Pulses counted in 100ms

Total Time On = 9.999ms

$$\begin{aligned}
 \text{Duty Cycle Correction Factor} &= 20 \log [\text{Time On} / (\text{Time On} + \text{Time Off})] \\
 &= 20 \log [9.999 \text{ ms} / 100 \text{ ms}] \\
 &= 20 \log [0.1] \\
 &= -20 \text{ dB}
 \end{aligned}$$

Figure 4



2.3 Bandwidth Data Instrumentation

COMMENT:

The bandwidth data has been presented without an explanation of the test equipment used or the settings for that equipment. Please either provide bandwidth plots (that contain this information) or provide more description of this test to include these items.

RESPONSE:

RSI used an HP 8566B Spectrum Analyzer to perform bandwidth measurements (see Figure 5). The resolution bandwidth of the spectrum analyzer was 10kHz (see Figure 6).

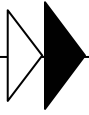


Figure 5

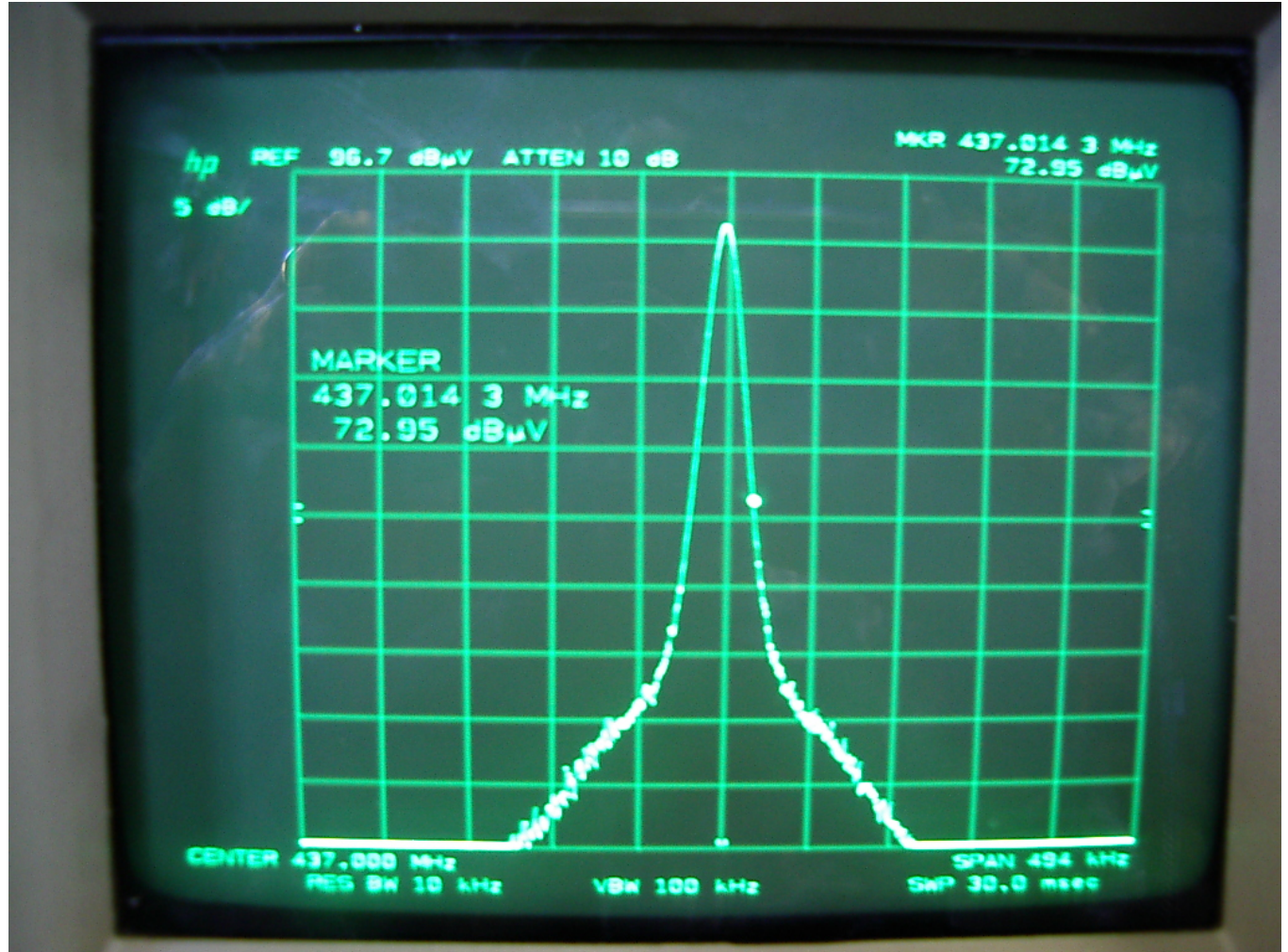


Figure 6